

Appendix G
Supplemental Information – Link One

Appendix G-1
Vascular Plant Species – Link One

Appendix G-1

Vascular Plant Species—Link One

Vernacular:	Scientific Name:
Plants:	
Acacia	<i>Acacia Constricta</i>
Catclaw	<i>Acacia greggii</i>
Dwarf Desert Peony	<i>Acourtia nana</i>
Annual Windmills	<i>Allionia choisyi</i>
Gyp Ringstem	<i>Anulocaulis gypsogenus</i>
Prickly Poppy	<i>Argemone pleiacantha</i>
Threeawn	<i>Aristida purpurea</i>
Milkweed	<i>Asclepias sp.</i>
Gypsum Milkvetch	<i>Astragalus gypsodes</i>
Fourwing Saltbush	<i>Atriplex canescens</i>
Gyp Grama	<i>Bouteloua breviseta</i>
Black grama	<i>Bouteloua eriopoda</i>
Blue grama	<i>Bouteloua gracilis</i>
Hartweg's Sundrops	<i>Calylophus hartweggii</i>
Netleaf Hackberry	<i>Celtis reticulata</i>
Baby Aster	<i>Chaetopappa ericoides</i>
Finger grass	<i>Chloris virgata</i>
Thistle	<i>Cirsium sp.</i>
Condalia	<i>Condalia warnockii</i>
Pincushion cactus	<i>Coryphantha micromeris</i>
Doveweed	<i>Croton texensis</i>
Buffalo Gourd	<i>Cucurbita foetidissima</i>
Hiddenflower	<i>Cryptantha sp.</i>
Purple dalea	<i>Dalea formosa</i>
Jimson weed	<i>Datura quercifolia</i>
Dogweed	<i>Dyssodia acerosa</i>
Turk's Head	<i>Echinocactus horizonthalonius</i>
Texas Rainbow Hedgehog Cactus	<i>Echinocereus dasyacanthus</i>
Fendler's Hedgehog Cactus	<i>Echinocereus fendleri</i>
Comb hedgehog	<i>Echinocereus pectinatus</i>
Hedgehog cactus	<i>Echinocereus triglocidiatus</i>
Rough Joint-fir	<i>Ephedra aspera</i>
Low Woolygrass	<i>Erioneuron pulchellum</i>
Fendler's spurge	<i>Euphorbia fendleri</i>
Tarbush	<i>Flourensia cernua</i>
Ocotillo	<i>Fouquieria splendens</i>
Firewheel	<i>Gaillardia multiceps</i>
Gaura	<i>Gaura coccinea</i>
Pink Vervain	<i>Glandularia bipinnatifida</i>
Greggia	<i>Greggia camporum</i>
Snakeweed	<i>Gutierrezia sarothrae</i>
Small-headed Snakeweed	<i>Gutierrezia microcephalum</i>
Golden aster	<i>Happlopappus spinulosus</i>
Prairie Sunflower	<i>Helianthus petiolaris</i>
Tobosa grass	<i>Hilaria mutica</i>
Daisy	<i>Ionactis ericoides</i>
Aligator bark juniper	<i>Juniperus deppeana</i>
One-seeded Juniper	<i>Juniperus monosperma</i>
Pinchott's juniper	<i>Juniperus pinchoti</i>

Vernacular:**Plants:**

Walnut
Crown-of-Thorns
Krameria
Creosotebush
Pepperweed
Bladderpod
Godons bladderpod
Wolfberry
Red Mahonia
Blackfoot
Blazingstar
Javelinabush
Vine Muhly
Torry Muhly
Cactus Apple
Tree Cholla
Christmas Cholla
Pricklypear Cactus
Pricklypear Cactus
Rubberbush
Mariola
Desert holly
Rosemary Mint
Honey Mesquite
Woolly Paperflower
Little-leaf Sumac
Soapberry
Sartwellia
Burro grass
Twinleaf Senna
Moonpod
Senecio
Silverleaf Nightshade
Globemallow
Alkali sacaton
Skeleton weed
Thelesperma
Siberian elm
Verbena
Cocklebur
Plains Yucca
Soaptree yucca
Torrey Yucca
Lote Bush

Scientific Name:

Juglans microcarpa
Koeberlinia spinosa
Krameria sp.
Larrea tridentata
Lepidium montanum
Lesquerella fendleri
Lesquerella gordonii
Lycium sp.
Mahonia haematocarpa
Melampodium leucanthum
Mentzelia humilis
Microrhamnus ericoides
Muhlenbergia pungens
Muhlenbergia torreyi
Opuntia engelmannii
Opuntia imbricata
Opuntia lepticaulis
Opuntia phaeacantha
Opuntia violacea
Parthenium confertum var. lyratum
Parthenium incanum
Perezia desertorum
Poliomintha incana
Prosopis glandulosa
Psilostrophe tagetina
Rhus microphylla
Sapindus saponaria v. drummondii
Sartwellia flaveriae
Scleropogon brevifolius
Senna bauinoides
Selinocarpus lanceolatus
Senecio longilobus
Solanum elaeagnifolium
Sphaeralcea sp.
Sporobolus airoides
Stephanomeria pauciflora
Thelesperma longipies
Ulmus pumila
Verbena sp.
Xanthium strumarium
Yucca campestris
Yucca elata
Yucca torreyi
Ziziphus obtusifolia

Appendix G-2

Vertebrate Animal Species – Link One

Appendix G-2

Vertebrate Animal Species – Link One

Vernacular:	Scientific Name:
Birds:	
American kestrel	<i>Falco sparverius</i>
American robin	<i>Turdus migratorius</i>
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Audabon's warbler	<i>Dendroica coronata</i>
Barn swallow	<i>Hirundo rustica</i>
Bewick's wren	<i>Thryomanes bewickii</i>
Black-throated sparrow	<i>Amphispiza bilineata</i>
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>
Brewers blackbird	<i>Euphagus cyanocephalus</i>
Brewer's sparrow	<i>Spizella breweri</i>
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>
Cassin's sparrow	<i>Aimophila cassinii</i>
Chihuahuan raven	<i>Corvus cryptoleucus</i>
Chipping sparrow	<i>Spizella passerina</i>
Canyon towhee	<i>Pipilo fuscus</i>
Common raven	<i>Corvus corax</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Crissal thrasher	<i>Toxostoma crissale</i>
Eastern meadowlark	<i>Sturnella magna</i>
European starling	<i>Sturnus vulgaris</i>
Greater roadrunner	<i>Geococcyx californianus</i>
Great-tailed grackle	<i>Quiscalus mexicanus</i>
Harris hawk	<i>Parabuteo unicinctus</i>
Hairy woodpecker	<i>Picoides villosus</i>
House finch	<i>Carpodacus mexicanus</i>
House sparrow	<i>Passer domesticus</i>
Ladder-backed woodpecker	<i>Picoides scalaris</i>
Lark bunting	<i>Calamospiza melanocorys</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Northern oriole	<i>Icterus galbula bullockii</i>
Mourning dove	<i>Zenaida macroura</i>
Pyrrhuloxia	<i>Cardinalis sinuatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Rock dove	<i>Columba livia</i>
Rock wren	<i>Salpinctes obsoletus</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Ruby-crowned sparrow	<i>Rufous-crowned</i>
Say's phoebe	<i>Sayornis saya</i>
Scaled quail	<i>Callipepla squamata</i>
Scissor-tailed flycatcher	<i>Tyrannus forficatus</i>
Song sparrow	<i>Melospiza melodia</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Turkey vulture	<i>Cathartes aura</i>
Vesper sparrow	<i>Pooecetes gramineus</i>
Western kingbird	<i>Tyrannus verticalis</i>
Western meadowlark	<i>Sturnella neglecta</i>

Vernacular:**Birds:**

White-crowned sparrow
White-winged dove
Yellow warbler
Vesper sparrow

Scientific Name:

Zonotrichia leucophrys
Zenaida asiatica
Dendroica petechia
Pooecetes gramineus

Reptiles:

Collared lizard
Side-blotched Lizard
Whiptail lizard

Crotaphytus collaris
Uta stansburiana
Cnemidophorus sp.

Mammals:

Coyote
Bannertail Kangaroo Rat
Black-tailed prairie dog
Blacktail Jackrabbit
Desert cottontail
Gray fox
Plains Wood Rat
Porcupine
Pronghorn antelope
Mule Deer
Spotted ground squirrel
Striped skunk

Canis latrans
Dipodomys spectabilis
Cynomys ludovicianus
Lepus californicus
Sylvilagus audubonii
Urocyon cinereoargenteus
Neotoma micropus
Erethizon dorsatum
Antilocarpa americana
Odocoileus hemionus
Spermophilus spilosoma
Mephitis mephitis

Appendix G-3

Soil Types Within Link One

Appendix G-3
Soil Types Within the Project Area—Link One

Soil Map Number	Soil Survey Name (italics)/General Soil Map Unit	Description	USDA Texture	Unified Soil Classification	Limitations on Shallow Excavations	Suitability for Terraces and Diversions	Erosion Factor K (soil loss rate)	Wind Erodibility Group	Hydrologic Group
Dawson County, Texas									
3	Amarillo	Deep, moderately permeable fine sandy loams	Sandy clay loam	SM, SC	Generally favorable	Generally favorable	Not rated	Moderate	A, B
2	Brownfield-Amarillo	Deep, moderately permeable loamy fine sands	Sandy clay loam, fine sand	SM, SC	Not rated	Not rated	Not rated	Moderate to severe	A, B
Gaines County, Texas									
1	Brownfield	Deep, moderately permeable sandy soils	Fine sand, sandy clay loam	SM, SC	Not rated	Not rated	Not rated	Severe	A, B
5	Simona-Kimbrough-Potter	Shallow or very shallow (1 to 2 feet), loamy soils over hard caliche	Sandy loam, gravelly loam, gravelly fine sandy loam	SM, SC, or ML	Caliche at 1 to 2 feet	Cuts limited be indurated caliche	Slight for gravelly loam; not rated for sandy loam	Slight to severe	B, C
3	Portales	Moderately deep, calcareous, loamy soils	Loam and clay loam	CL	Moderate depth to chalky loam subsoil	Cuts limited by moderate depth to chalky loam subsoil	Not rated	Moderate	B, C
6	Arch-Drake-Potter	Soils bordering salt lakes	Loam, clay loam, fine sandy loam, gravelly fine sandy loam	ML, CL, SM	Moderate to severe erosion hazard; soft to platy caliche at 10 to 20 inches	Moderate to severe erosion hazard; soft to platy caliche at 10 to 20 inches	Moderate to severe	Moderate to severe	B, C
Lea County, New Mexico									

Appendix G-3
Soil Types Within the Project Area—Link One

Soil Map Number	Soil Survey Name (italics)/General Soil Map Unit	Description	USDA Texture	Unified Soil Classification	Limitations on Shallow Excavations	Suitability for Terraces and Diversions	Erosion Factor K (soil loss rate)	Wind Erodibility Group	Hydrologic Group
1	Kimbrough	Nearly level and gently sloping, gravelly and loamy soils that are very shallow and shallow to indurated caliche	Gravelly loam over indurated caliche	SM, SC, ML	Indurated caliche at ½ to 1½ feet	Indurated caliche at ½ to 1½ feet	Slight	Slight	A, B
4	Amarillo-Arvana	Nearly level and gently sloping, sandy and loamy soils that are moderately deep and deep to soft or indurated caliche	Sandy clay loam	SM, SC	Generally favorable	Moderate erosion hazard	Moderate	Moderate to severe	A, B
2	Kimbrough-Lea	Nearly level and gently sloping, gravelly and loamy soils that are very shallow to moderately deep to indurated caliche	Gravelly loam or loam over indurated caliche	SM, SC, ML, CL	Indurated caliche at ½ to 3½ feet	Indurated caliche at ½ to 3½ feet	Not rated	Moderate	A, B
8	Pyote-Maljamar-Kermit	Gently undulating and rolling, deep, sandy soils	Fine sand, loamy fine sand	SP-SM, SM	Severe erosion hazard; bank sloughing	Severe blowing hazard; moderate permeability	Severe	Severe	A, B
6	Simona-Tonuco	Nearly level and gently undulating, loamy and sandy soils that are shallow to indurated caliche	Fine sandy loam, loamy fine sand over indurated caliche	SM	Indurated caliche at ½ to 1½ feet	Indurated caliche at ½ to 1½ feet	Not rated	Severe	A, B
7	Berino-Cacique	Nearly level and gently sloping, sandy soils that are deep and moderately deep to soft or indurated caliche	Sandy clay loam, loamy fine sand	SC, SM	Moderate to severe erosion	Moderate to severe erosion	Moderate to severe	Severe	A, B

Eddy County, New Mexico

Appendix G-3
Soil Types Within the Project Area—Link One

Soil Map Number	Soil Survey Name (italics)/General Soil Map Unit	Description	USDA Texture	Unified Soil Classification	Limitations on Shallow Excavations	Suitability for Terraces and Diversions	Erosion Factor K (soil loss rate)	Wind Erodibility Group	Hydrologic Group
2	Reagan-Upton	Loamy, deep soils (Reagan) and soils that are shallow (1 to 2 feet) to caliche (Upton); from old alluvium	Loam, light clay loam, gravelly loam	CL, SM	1 to 2 feet to caliche (Upton)	Features favorable (Reagan); caliche in cuts (Upton)	Slight	Slight	C
3	Reeves-Gypsum land-Cottonwood	Loamy soils that are very shallow to moderately deep (1 to 3 feet) over gypsum beds, and Gypsum land (gypsiferous earth over gypsum at 0 to 1 foot)	Heavy loam, light clay loam, loam, gypsiferous earth	CL, ML-CL, ML	0 to 3 feet to gypsum beds	Shallow depth to gypsum	Slight (Reeves) to severe if vegetative cover lost (Cottonwood)	Moderate	C
6	Simona-Pajarito	Soils that are shallow (1 to 2 feet) to caliche (Simona) and sandy, deep soils (Pajarito); from wind-worked deposits	Gravelly fine sandy loam, loamy fine sand, fine sandy loam	SM	1 to 2 feet to caliche (Simona); features favorable (Pajarito)	Very sandy, susceptible to soil blowing	Moderate	Severe	A, B
5	Kermit-Berino	Sandy, deep soils from wind-worked mixed sand deposits	Fine sand, loamy fine sand	SP-SM, SM	Features favorable	Susceptible to piping	Slight to moderate	Severe	A

Appendix G-3
Soil Types Within the Project Area—Link One

Soil Map Number	Soil Survey Name (italics)/General Soil Map Unit	Description	USDA Texture	Unified Soil Classification	Limitations on Shallow Excavations	Suitability for Terraces and Diversions	Erosion Factor K (soil loss rate)	Wind Erodibility Group	Hydrologic Group
7	Arno-Harkey-Anthony	Loamy, deep soils from recent mixed alluvium	Silty clay loam, very fine sandy loam, loam, silt loam, stratified sandy loam, loamy sand	CL, ML, SM	Subject to flooding (Arno); very sandy (Anthony); favorable (Harkey)	Poor stability, erodible (Arno, Anthony); favorable (Harkey)	Moderate	Moderate	A (Anthony) B (Harkey) C, D (Arno)
Culberson County, Texas									
7	Ector-Rock Outcrop	Shallow, hilly to steep, calcareous, stony soils of limestone hills and mountains; 0 to 2 feet to limestone bedrock	Stony loam	SM-ML	0 to 2 feet to limestone bedrock	Rocky soil where present	Not rated	Not rated	C, D
4	Simona-Pajarito	Shallow and deep, loamy, undulating soils on uplands	Gravelly fine sandy loam, loamy fine sand, fine sandy loam	SM	Features favorable	Very sandy, susceptible to soil blowing	Moderate	Severe	A, B
Hudspeth County, Texas									
1	Upton-Reakor	Deep to shallow, nearly level to strongly sloping, calcareous soils on uplands	Loam, light clay loam, gravelly loam	CL, SM	1 to 2 feet to caliche (Upton); favorable (Reakor)	Caliche in cuts (Upton); Features favorable (Reakor)	Slight	Slight	B, C

Appendix G-3
Soil Types Within the Project Area—Link One

Soil Map Number	Soil Survey Name (italics)/General Soil Map Unit	Description	USDA Texture	Unified Soil Classification	Limitations on Shallow Excavations	Suitability for Terraces and Diversions	Erosion Factor K (soil loss rate)	Wind Erodibility Group	Hydrologic Group
2	Conger-Ratliff	Shallow to deep, loamy, nearly level to sloping soils on the uplands	Loam, clay loam	ML, CL	1 to 2 feet to caliche (Conger); favorable (Ratliff)	Caliche in cuts (Conger); Features favorable (Ratliff)	Not rated	Not rated	B, C
4	Holloman-Reeves-Hoban	Nearly level, calcareous, loamy soils that are very shallow to deep over gypsiferous earth	Loam, light clay loam, silty clay loam	ML, CL	1 to 3 feet to gypsum (Holloman, Reeves); favorable (Hoban)	Gypsum in cuts (Holloman, Reeves); erodible	Moderate	Moderate	B, C
8	Lozier-Rock Outcrop	Very shallow to shallow, strongly sloping to steep, calcareous soils on hills and mountains	Gravelly loam	SM	0 to 2 feet to limestone bedrock	0 to 2 feet to limestone bedrock	Not rated	Not rated	C, D
El Paso County, Texas									
1	Hueco-Wink	Nearly level and gently sloping soils that have a fine sandy loam subsoil and are moderately deep over caliche; in the Hueco Bolson	Loamy fine sand, fine sandy loam	SP, SM, SM-SC	Caliche at 2 to 3 feet	Erodible, unstable	Moderate	Moderate to severe	A, B
5	Wink-Simona-Mimbres	Nearly level to sloping soils that are moderately deep or shallow over hard caliche or that are deep and have a silt loam subsoil; mainly on alluvial fans and foot slopes of the Hueco Mountains	Fine sandy loam, gravelly fine sandy loam, silt loam	SM-SC, GM, SM, ML	Features favorable (Mimbres); Caliche at 1 to 2 feet (Wink, Simona)	Erodible, piping, unstable	Moderate	Moderate to severe	A, B
2	Bluepoint	Deep, gently sloping to strongly sloping soils that have loamy sand underlying material; just above the Rio Grande floodplain	Loamy fine sand	SM	Favorable	Poor resistance to piping	Moderate	Moderate to severe	A, B

Appendix G-3
Soil Types Within the Project Area—Link One

Soil Map Number	Soil Survey Name (italics)/General Soil Map Unit	Description	USDA Texture	Unified Soil Classification	Limitations on Shallow Excavations	Suitability for Terraces and Diversions	Erosion Factor K (soil loss rate)	Wind Erodibility Group	Hydrologic Group
3	Harkey-Glendale	Deep, nearly level soils that have loamy very fine sand to silty clay loam underlying material; on the Rio Grande flood plain	Loam, silty clay loam	ML, CL	Favorable	Favorable	Slight	Slight to moderate	B, C

Key and Explanation of Factors

USDA Texture: Particle sizes – clay and silt = <0.074 millimeter (mm) (defined by size **and** behavior); sand = 0.074 to 4.75 mm; gravel = 4.75 to 75 mm; loam = mixture of 7-27% clay + 28-50% silt + <52% sand.

Unified Soil Classification: CL = low plasticity clays, GC = clayey gravels, GM = silty gravels, ML = inorganic silts and very fine sands, SC = clayey sands, SM = silty sands, SP = poorly graded sands, gravelly sands, little or no fines.

Erosion Factor, K – K is used to estimate erosion using the Revised Universal Soil Loss Equation (RUSLE). K values reflect the rate of soil loss per rainfall-runoff (R) erosion index [(ton * acre * h)/(hundreds of acre * foot * tonf * in)⁻¹]. Values of K vary from 0.05 to 0.65. Fine-textured clays have low K values of 0.05 to 0.15 because the particles are resistant to detachment. Coarse-textured soils, such as sands, have low K values of 0.05 to 0.20 even though particles are easily detached because of high infiltration capacity that results in low runoff. Medium-textured soils such as silt loam have moderate K values of 0.25 to 0.45 because the soils are moderately susceptible to detachment and lower infiltration capacity produces moderate runoff. Soils with high silt content have the highest K values (0.45 to 0.65) because silt particles are easy to detach and silt soils tend to crust, producing high levels of runoff (Toy, T.J. and Foster, G.R 1998)

Wind Erodibility Groups are used to predict the susceptibility of the soil to blowing. Groups 1 (sands), 2 (loamy sands), and 3 (sandy loams) are very highly erodible to highly erodible. Groups 4L (calcareous loamy soils) and 4 (clays and clay loams) are erodible but crops can be grown if erosion control measures are used. Group 5, 6, and 7 soils (various types of loams) are slightly erodible to very slightly erodible. Group 8 soils (stony or gravelly soils) are not subject to soil blowing.

Hydrologic Groups are used to estimate runoff from precipitation. Group A soils have a high infiltration rate and therefore a low runoff potential. Group B soils have a moderate infiltration rate. Group C soils have a slow infiltration rate. Group D soils have a very slow infiltration rate and therefore the highest runoff potential. Where hydrologic groups were not stated within the references, they have been inferred from descriptions of runoff and infiltration.